IN THE CLAIMS:

1. (Currently Amended) An apparatus, comprising:

an armature having at least one groove formed on an exterior surface thereof, the armature including a valve member to occlude flow in a first direction of movement of the armature and to permit flow in a second direction of movement of the armature opposite to the first direction;

a sleeve extending along an axis, the armature being disposed for movement in ~~a~~ the first direction and ~~a~~ the second direction ~~opposite the first direction~~ along the axis in the sleeve;

an electromagnetic coil operative to cause movement of the armature along the longitudinal axis as a response to energization of the electromagnetic coil;

a single continuous spring member disposed in the at least one groove in the armature and in direct sliding contact with the sleeve, wherein the spring member exerts a radially outwardly directed spring force against the sleeve that slows the response of the movement of the armature along the axis in the first and second directions when the electromagnetic coil is energized.

2. (Original) The apparatus of claim 1 further comprising an electric coil disposed adjacent the sleeve for moving the armature in the sleeve.

3. (Original) The apparatus of claim 1 wherein the armature is generally cylindrical in shape.

4. (Original) The apparatus of claim 3 wherein the at least one groove is concentric with a longitudinal axis of the armature.

5. (Canceled)

6. (Original) The apparatus of claim 1 wherein the armature defines at least one hole extending axially through the armature so that fluid may flow through the armature from one side to the other.

7. (Original) The apparatus of claim 4 wherein the armature has a plurality of grooves defined therein, the grooves being concentric with the longitudinal axis of the armature, the apparatus further comprising a plurality of spring members disposed in the plurality of grooves, respectively.

8. (Original) The apparatus of claim 3 wherein the groove is formed on the armature in a helical pattern.

9. (Original) The apparatus of claim 6 wherein the armature defines a plurality of holes extending axially through the armature so that fluid may flow through the armature from one side to the other.

10. (Original) The apparatus of claim 3 wherein the groove is substantially parallel to a longitudinal axis of the armature.

11. (Original) The apparatus of claim 1 wherein the armature includes a valve portion extending from one end thereof

12. (Original) The apparatus of claim 11 wherein the valve portion is formed integrally with the armature.

13. (Original) The apparatus of claim 11 wherein the valve portion is threaded into the armature.

14. (Original) The apparatus of claim 1 wherein the armature has a generally parallelepiped shape.

15. (Original) The apparatus of claim 1 wherein the sleeve comprises a plastic material.

16. (Original) The apparatus of claim 1 wherein the sleeve comprises a metal material.

17. (Original) The apparatus of claim 1 wherein the sleeve comprises a fiber-reinforced plastic material.

18. (Original) The apparatus of claim 1 wherein the spring member comprises a plastic material.

19. (Original) The apparatus of claim I wherein the spring member comprises a metal material.

20. (Original) The apparatus of claim 1 wherein the spring member comprises a fiber-reinforced plastic material.

21. (Currently Amended) A method of stabilizing an electromagnetically operated actuator, comprising:

providing a coil and an armature, the armature being disposed for movement in a first direction and a second direction opposite the first direction along the axis in the sleeve, the armature having at least one groove formed on an exterior surface thereof, the armature including a valve member to occlude flow in a first direction of movement of the armature and to permit flow in a second direction of movement of the armature opposite to the first direction;

moving the armature along the axis as a response to energization of the coil; and

exerting a radially outwardly directed force against the sleeve by a single continuous member disposed in the at least one groove that is in direct sliding contact with the sleeve so as to slow the response of the movement of the armature along the axis in the first and second directions when the electromagnetic coil is energized.

22. (Withdrawn) An apparatus, comprising:

a sleeve extending along an axis and having at least one groove formed on an interior surface thereof;

an armature, the armature being disposed for movement in a first direction and a second direction opposite the first direction along the axis in the sleeve, the armature including a valve member to occlude flow in a first direction of movement of the armature and to permit flow in a second direction of movement of the armature opposite to the first direction;

an electromagnetic coil operative to cause movement of the armature as a response to energization of the electromagnetic coil; and

a single continuous spring member disposed in the at least one groove in the sleeve and in direct sliding contact with the armature, wherein the spring member exerts a friction force against the armature that slows the response of the movement of the armature along the axis in the first and second directions when the electromagnetic coil is energized.

23. (Original) The apparatus of claim 22 further comprising an electric coil disposed adjacent the sleeve for moving the armature in the sleeve.

24. (Original) The apparatus of claim 22 wherein the armature is generally cylindrical in shape.

25. (Original) The apparatus of claim 24 wherein the at least one groove is concentric with a longitudinal axis of the armature.

26. (Original) The apparatus of claim 25 wherein the at least one groove extends at least partially around an inner circumference of the sleeve and the spring member extends at least partially around the inner circumference of the sleeve.

27. (Original) The apparatus of claim 22 wherein the armature defines at least one hole extending axially through the armature so that fluid may flow through the armature from one side to the other.

28. (Withdrawn) An apparatus, comprising:

an armature having at least one radial opening formed therein;

a sleeve, the armature being movably disposed in the sleeve;

a spring disposed in the at least one radial opening in the armature; and

a ball bearing disposed on one end of the spring and in sliding contact with the sleeve wherein the bearing member exerts a radially outwardly directed force against the sleeve.

29. (Withdrawn) The apparatus of claim 28 wherein the at least one radial opening extends partially through the armature and another end of the spring bears against a bottom of the radial opening in the armature.

30. (Withdrawn) The apparatus of claim 28 wherein the at least one radial opening extends completely through the armature, the apparatus further comprising a second bearing member disposed on another end of the spring and in sliding contact with the sleeve wherein the second bearing member exerts a radially outwardly directed force against the sleeve.

31. (Withdrawn) The apparatus of claim 30 further comprising a plurality of radial openings extending completely through the armature; a plurality of springs disposed in the plurality of radial openings, respectively; a plurality of bearing members, the bearing members disposed on each end of each of the plurality of springs, respectively; wherein the plurality of bearing members are in sliding contact with the sleeve and exert a radially outwardly directed force
against the sleeve.

32. (Currently Amended) An apparatus, comprising:

an armature including a valve member to occlude flow in a first direction of movement of the armature and to permit flow in a second direction of movement of the armature opposite to the first direction;

a sleeve extending along an axis, the armature being disposed for movement in athe first direction and athe second direction ~~opposite the first direction~~ along the axis in the sleeve;

an electromagnetic coil operative to cause movement of the armature along the axis as a response to energization of the electromagnetic coil; and

a single continuous spring member in sliding contact with one of the armature and the sleeve, wherein the spring member creates a friction force between the sleeve and the armature that slows the response of the movement of the armature along the axis in the first and second directions when the electromagnetic coil is energized.

33. (Original) The apparatus of claim 32 wherein the armature includes at least one groove formed on an exterior surface thereof, the spring member being disposed in the at least one groove in the armature and in sliding contact with the sleeve wherein the spring member exerts a radially outwardly directed spring force against the sleeve.

34. (Original) The apparatus of claim 32 wherein the sleeve includes at least one groove formed on an interior surface thereof; the spring member being disposed in the at least one groove in the sleeve and in sliding contact with the armature wherein the spring member exerts friction force against the

armature.

35. (Original) The apparatus of claim 32 wherein the armature has at least one radial opening formed therein; the spring member comprising a spring disposed on one end of the spring and in sliding contact with the sleeve wherein the bearing member exerts a radially outwardly directed force against the sleeve.

36. (Withdrawn) The apparatus according to claim 1, wherein the at least one groove comprises at least one groove extending along the longitudinal axis.

37. (Withdrawn) The method according to claim 21, wherein the providing further comprises locating the at least one groove along the longitudinal axis.

38. (Withdrawn) The apparatus according to claim 10, wherein a length of the spring member is greater than a length of the groove along the axis.

39. (Withdrawn) The apparatus according to claim 28, wherein the ball bearing further comprises two ball bearings disposed at least partially in a through-opening of the armature and extending transversely to the axis, the two ball bearings being biased apart by a spring member disposed within the through-opening between the two ball bearings so that each of the ball bearings engages the sleeve radially with respect to the axis.